# The U.S. Climate Action Plan & Opportunities for Energy Performance

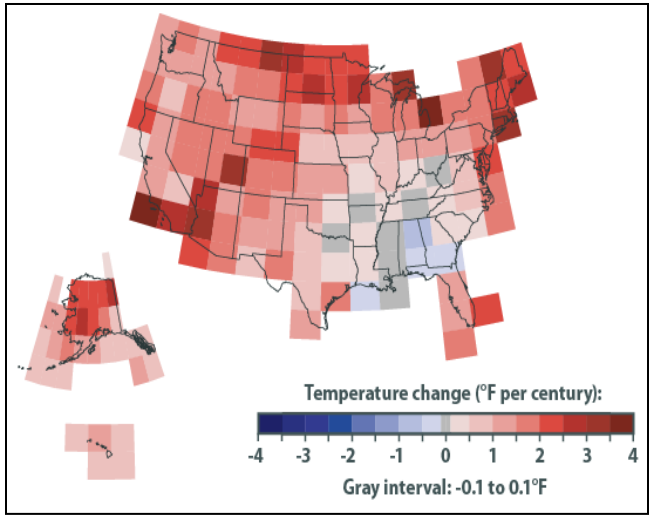

**Energy Industry Day – Energy Performance Contracting**
**24 February 2015**

Luke H. Bassett
U.S. Department of Energy

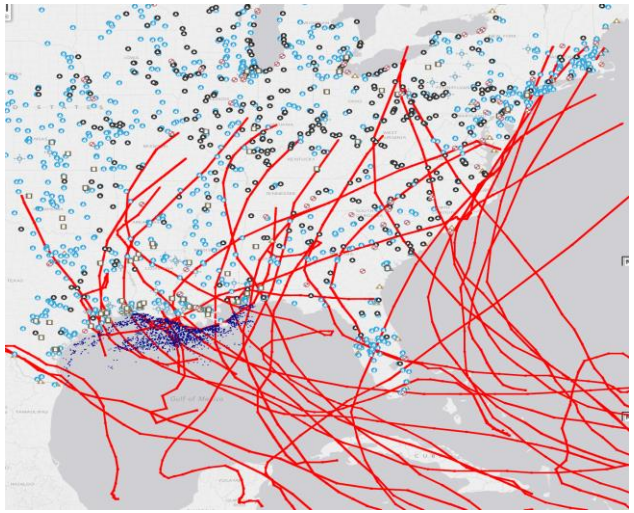
# Key Points Up Front

- Climate change is real and will have significant impacts
- The emissions that drive the change – and therefore the solutions to the problem – are largely in the energy arena
- The Federal government is the single largest energy consumer – a clear role to lead by example
- Properly designed, our emission reduction strategies can create multiple economic and social benefits – from cleaner air to good jobs to energy security

# Climate Trends and Energy Sector Impacts




Rate of warming in the United States by region, 1901–2011
(EPA 2012a)



Hurricane storm paths (1980-2012) and locations of U.S. energy infrastructure
(NOAA 2013a,NOAA 2013d, NOAA 2013h, EIA 2013b)

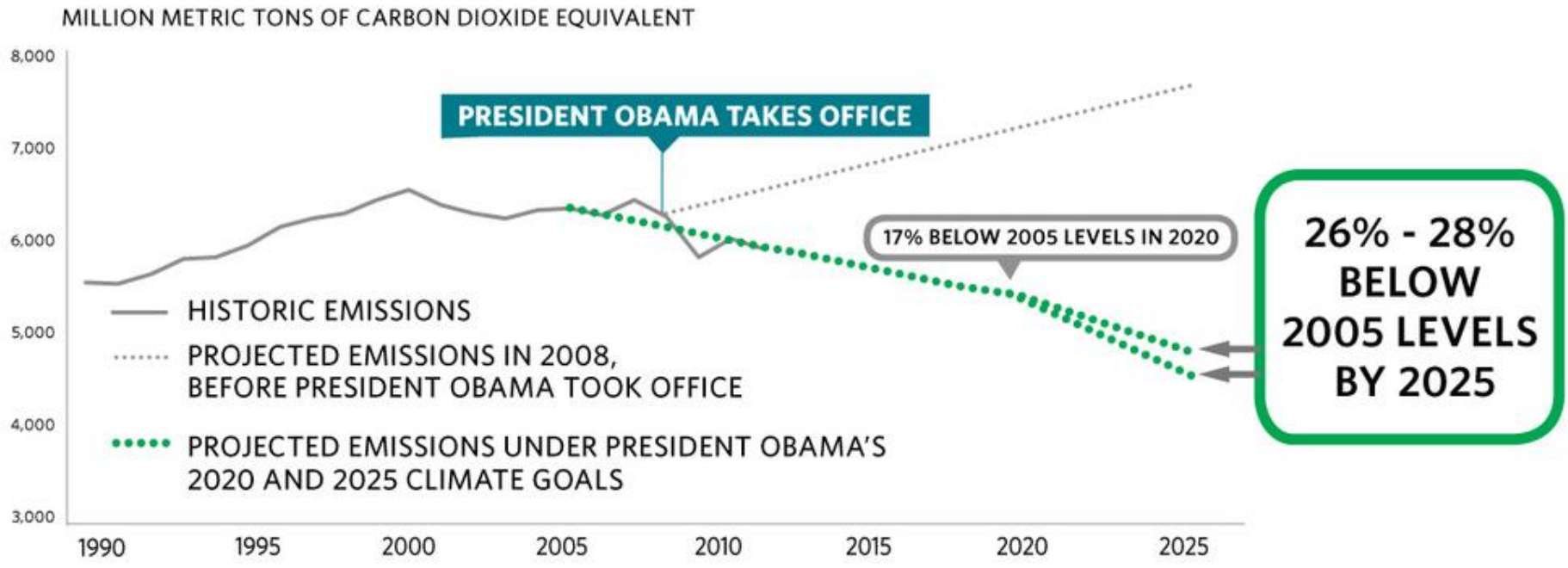
## Climate Trends

- Average temperatures have increased across the U.S. over the past 100 years
- Heat waves have become more frequent and intense
- Hurricanes and tropical storms have become more intense
- Snowpack levels have decreased, resulting in lower summer streamflows

## Key Energy Sector Impacts

- Increasing temperatures will likely increase electricity demand
- Increasing intensity of storm events, sea level rise, and storm surge put coastal and offshore facilities at increased risk of damage or disruption
- Increasing intensity of storm events increases risk of damage to electric transmission and distribution lines
- Changes in precipitation/decreasing snowpack could decrease available hydropower generation capacity

# U.S. Emissions Targets

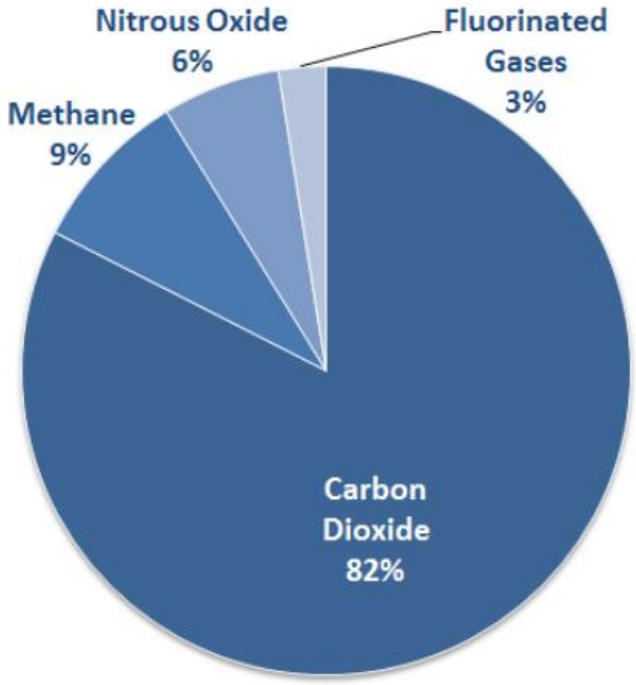



- Robust action brings us in range of 26-28% below 2005 levels by 2025
- Doubling of energy productivity by 2030

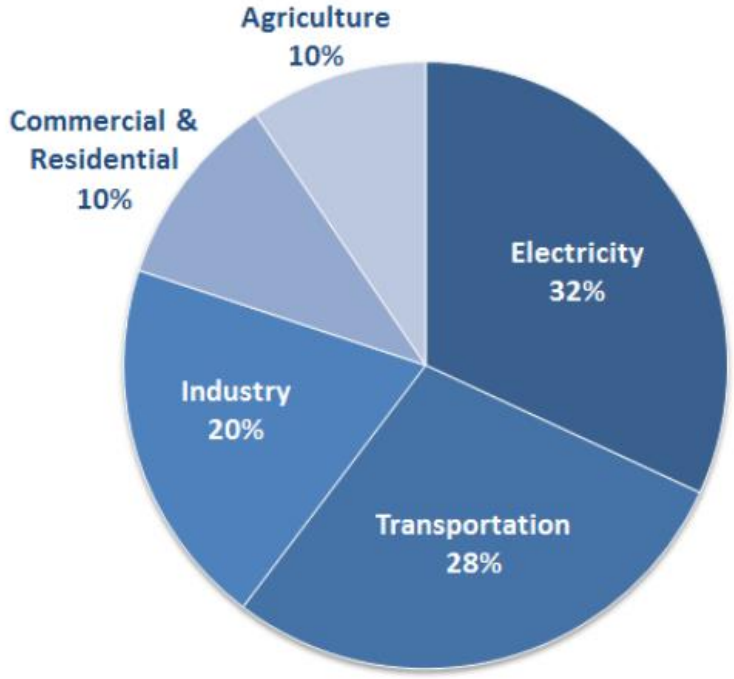
# For the U.S., Climate Change is an Energy and Carbon Problem

U.S. Emissions by Greenhouse Gas and Sector
~85% of emissions tied to energy

Emissions by Gas




Emissions by Sector

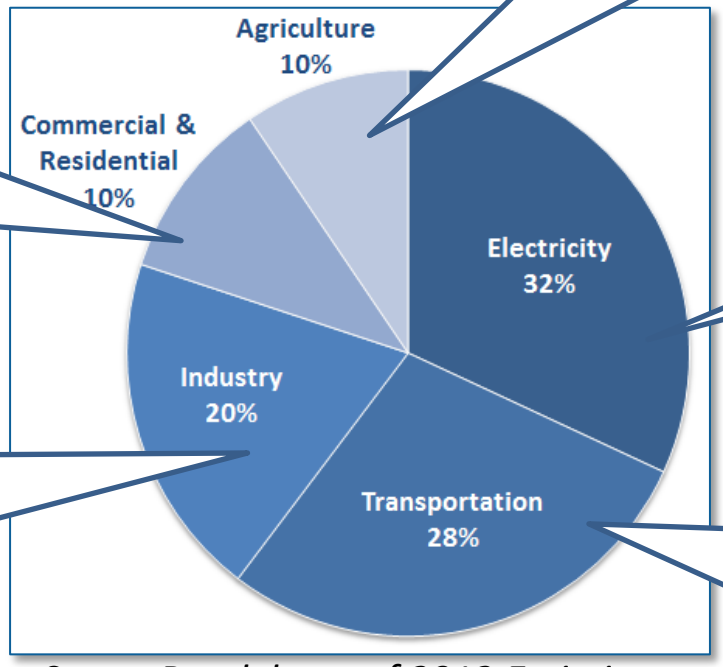



*Source: EPA, 2014, Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2012*

# The U.S. Climate Action Plan

- Interagency Methane Strategy
- Agricultural policies on $N_2O$

- Appliance & Equipment standards
- Building codes
- Green Mortgages
- Other measures



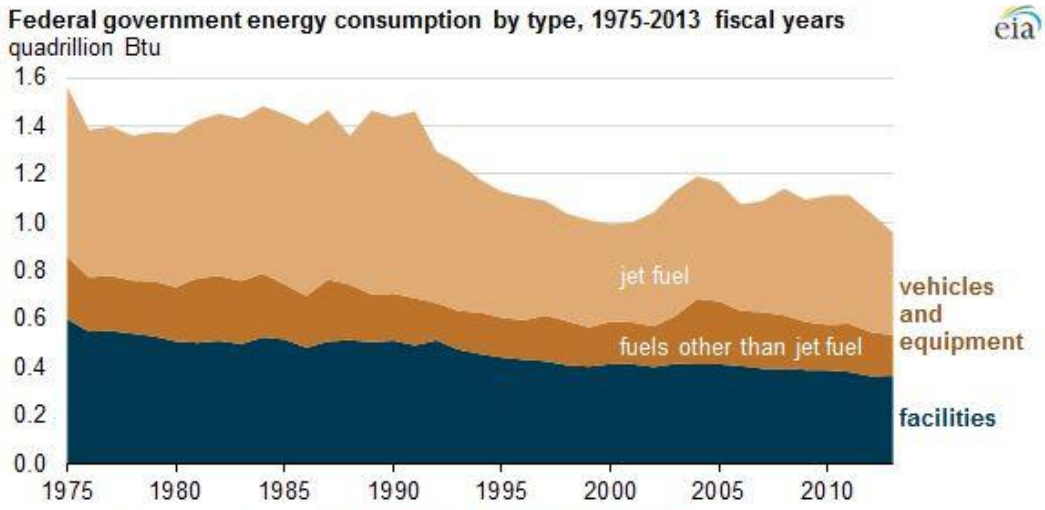

- Clean Power Plan
- Building codes
- Appliance & equipment standards
- Other measures

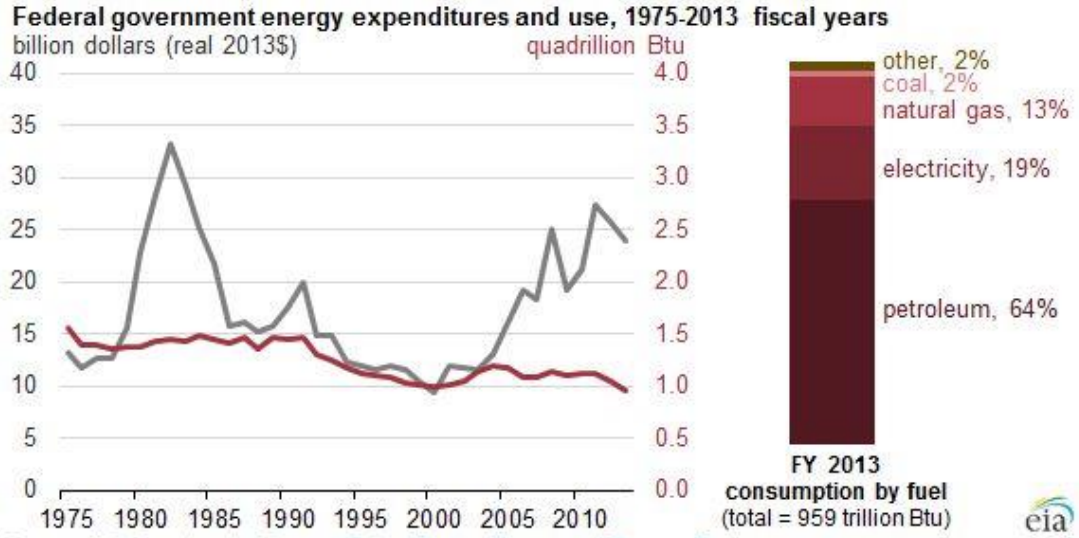
- HFCs including SNAP
- Oil & Gas Methane
- Efficiency programs
- Other measures

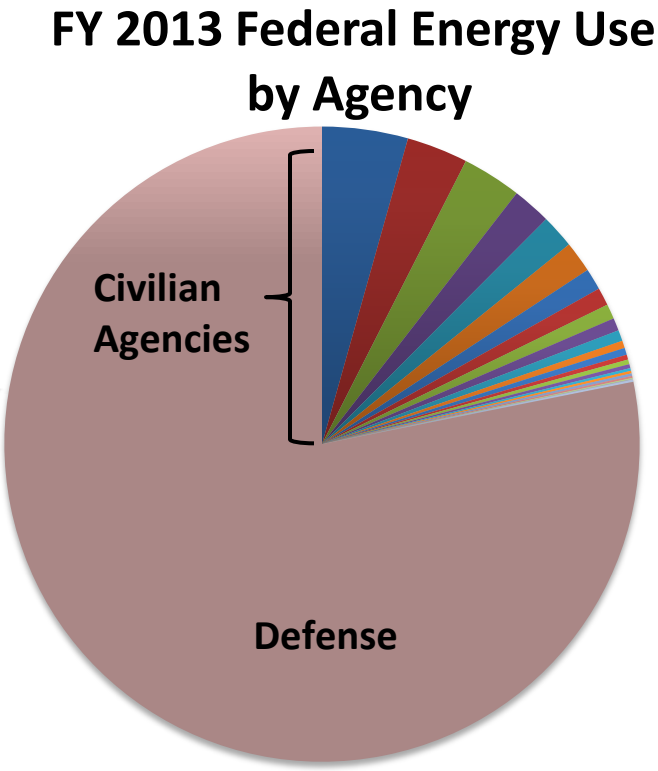
- Fuel economy standards
- Biofuels
- Reduced VMT
- Aviation & Shipping
- Other measures

*Sector Breakdown of 2012 Emissions (EPA)*

# Federal Energy Use Trends



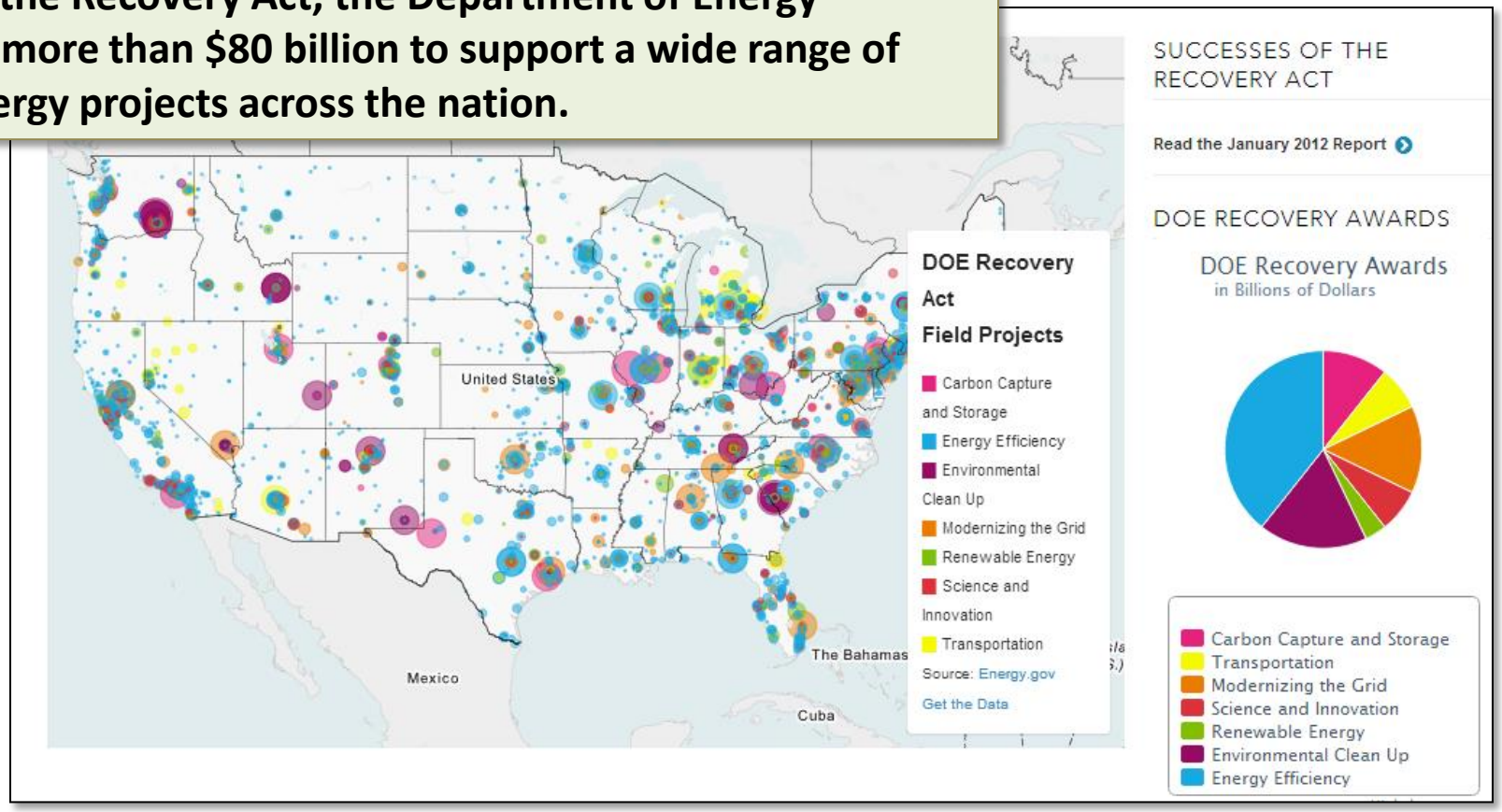




Source: FEMP, 2014

# Major Investments in Clean Energy Research, Development and Demonstration

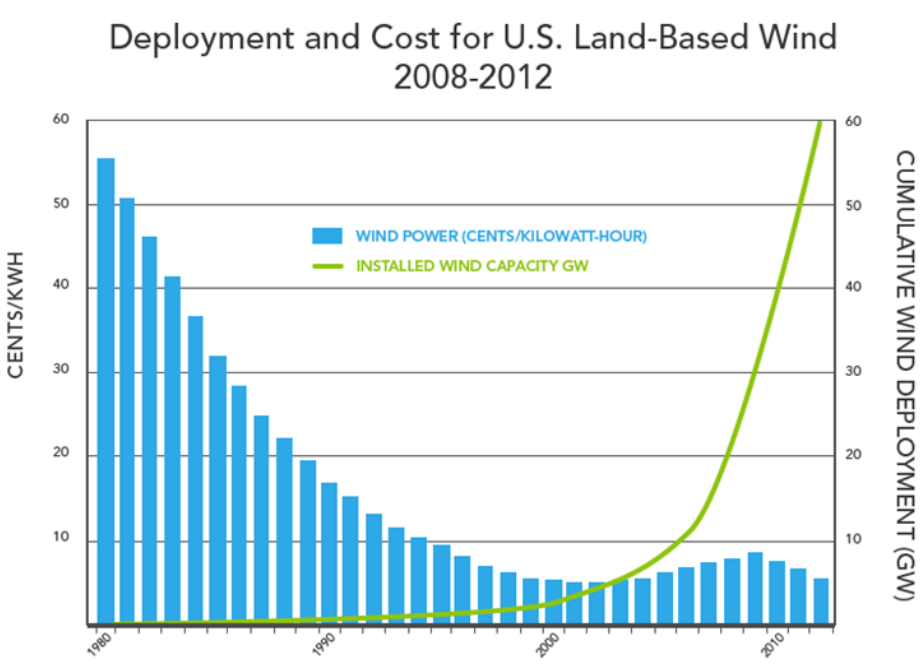
**Through the Recovery Act, the Department of Energy invested more than $80 billion to support a wide range of clean energy projects across the nation.**

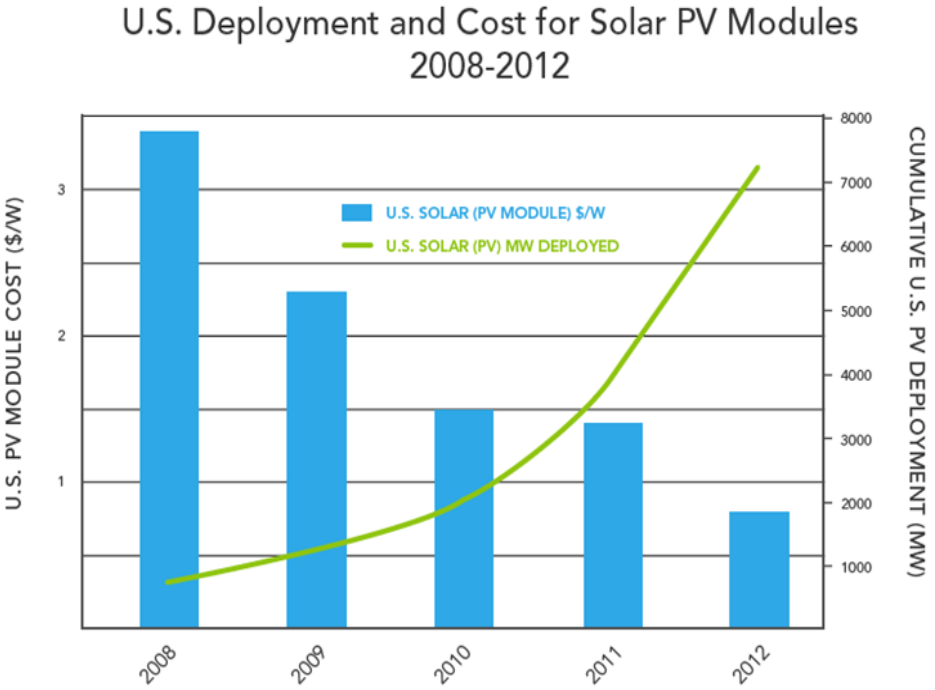





**Source:** energy.gov/maps/doe-recovery-act-field-projects

# Advancing Technology




Source: US DOE, 2013 "Revolution Now"

"…[T]he question is not whether we need to act. The overwhelming judgment of science -- of chemistry and physics and millions of measurements -- has put all that to rest…. [T]he question now is whether we will have the courage to act before it's too late. And how we answer will have a profound impact on the world that we leave behind not just to you, but to your children and to your grandchildren."

*- President Obama, Georgetown University, June 2013*